Enclosure #4

L.E. Carpenter Draft Feasibility Study
EPA Comments Based on the May 8, 1991 Comments Prepared by Frederick J. Luckey, Geologist

General Comments

1) Certain "conclusions" regarding what contaminants will need to be addressed do not appear to be based on instructions from NJDEP or EPA. NJDEP and EPA must ensure that any decisions made to exclude contaminants from consideration for remedial efforts are appropriate.

2) Significant QA/QC sampling problems which may seriously limit the usefulness of some of the sampling data have not been acknowledged in the FS Report. For example, the text states that no VOCs have been detected in the Rockaway River. However, the text does not state that VOC holding times were exceeded for all river water samples. All of the inorganic sampling results are highly questionable considering that the labs do not even know the day that the inorganic analyses were run! This means that there is no way of knowing what instruments the samples were analyzed on, if the instruments passed standard calibration tests for that day, as well as other facts that may impact the reliability of the data. This lack of records also raises serious questions concerning chain of custody procedures. Before accepting the FS Report, NJDEP should ensure that the data quality is adequate for the uses of the data and that the conclusions drawn from the data can be made reliably.

SPECIFIC COMMENTS

1) Page 1-1, Second Sentence - This sentence arbitrarily focuses on two of the criteria for evaluating remedies under CERCLA, thereby giving too much weight to cost-effectiveness, which is only one of the nine chief remedy evaluation criteria. This sentence should either be deleted or else expanded to cite all of the criteria by which FS remedial alternatives will be judged.

2) Page 1-6, Second Paragraph - The hydraulic conductivity value is incorrectly notated. It should be written as 1.8x10-2 cm/sec. Hydraulic conductivity value units should be kept consistent throughout the report. The discussion of the computer model gives hydraulic conductivity values in terms of gal/day/ft.sq. Units should be revised so that the same units are used throughout the report.

3) Page 1-8, Second Paragraph, First Sentence - What is the source of the historic information about the iron mine and steel company? Was mining conducted exclusively on the site or was mining also conducted on nearby properties? References should be provided.

4) Page 1-9, Third Paragraph, Last Three Sentences - Statements to the effect that the site would not be listed on the NPL if it was ranked today should be deleted from this report. This is purely

conjecture. For one thing, the site ranking system has been revised since the site was listed. Secondly, the RI/FS has not produced a definitive picture of the number, locations and status of the groundwater wells in this area. The text states that the two Wharton supply wells are no longer in use but previous pages state that there were five Wharton supply wells. The very last sentence is a bit puzzling. It is stated earlier that the site would no longer rank on the NPL but here in the last sentence it states that it was primarily the presence of floating product which caused the site to be ranked on the NPL. The floating product still is present on-site.

5) Page 1-11, Last Full Sentence - The text does not accurately describe the extent of floating product. Significant amounts of floating product have been detected over 500 feet west of building 13. It has not been determined if the layer of floating product detected west of building 9 is part of the same layer that is detected at building 13. No explanation has been provided as to where the floating product present near building 9 could have come from. There could be unrecognized source areas/leaking underground storage tanks in this area.

6) Page 1-12, First Paragraph, Last Sentence - The text should state which inorganic parameters were detected in excess of (State or federal) MCLs or groundwater criteria. It would appear by the wording of this sentence that some samples may have exceeded standards, but that the authors do not want to provide the details.

7) Page 1-12, Second Paragraph, Seventh Sentence - This sentence is misleading. The drainage ditch may not prevent migration of the groundwater contamination as the word "barrier" suggests. If anything, it facilitates the migration of shallow groundwater contamination from the site by diverting it to the Rockaway River. The following statement, that groundwater flows from MW-13 to the ditch, should be deleted unless the supporting evidence is provided or cited.

8) Page 1-12, Last Paragraph - The statement that VOCs were not detected in the Rockaway River should be qualified with the fact that most of the surface water samples did not pass VOC QA/QC due to holding time exceedances.

9) Page 1-24, Second Paragraph, Third Sentence - The statement that the Rockaway River is a losing stream should be deleted unless supporting evidence is provided. It conflicts with groundwater flow maps presented in the RI.

10) Page 2-9, Second Paragraph - The NJDEP cleanup levels for soils are in the process of being promulgated and may become enforceable. Since the NJDEP soil clean up levels shown on table 2-4 may not be exactly the same as those that will be promulgated, the ROD for this site would have to consider the new cleanup levels if it is

completed and signed after those levels have been promulgated.

11) Page 2-12, First Paragraph - Federal MCLs should be added to the list as ARARs for groundwater at the site.

12) Page 4-9, First Paragraph - The difficulty in dewatering areas of the site appears to be overstated. Soil can be easily excavated several feet below the water table given the right equipment. Cut off walls do not need to extend all the wall to bedrock in order to significantly reduce inflow to the excavation area. The wording of this entire section appears to be designed to discourage remedial options that require excavation.

13) Page 4-9, Second Paragraph - This paragraph should be deleted. The proper compaction of sand and gravel is not a significant technological problem. This paragraph appears have been included solely to be to discourage any remedial activities that involve excavation.

14) Page 4-10, Top of Page - The statement that sheet piling cannot be installed because of "boulder-filled soil" does not seem to be well supported by the hydrogeologic framework that is presented in the RI. The geologic cross-sections show that the majority of the site is underlain by sand and gravel. The text should be modified.

15) Page 4-10, Second Paragraph, Last Sentence - This sentence may be misleading as to the feasibility of excavating below the water table. There are no site conditions that preclude excavating large areas at the site except, perhaps, for the area immediately along the river.

16) Page 4-29, Last Sentence - The provision of bottled water may be a necessary component of supplying an alternate water supply if residential well contamination was identified. Water line hook-ups could not be installed over night. It may take several months to effect the hook-ups.

17) Page 4-31, First Paragraph, Last Sentence - In addition to containing the migration of floating product, "hanging walls" can reduce the amount of groundwater that would have to be pumped to collect the plume for treatment. The fact that the horizontal hydraulic conductivity is generally 10 times that of the vertical conductivity of aquifer materials in unconsolidated deposits suggests that a slurry wall may be useful as part of the remedy for this site.

18) Page 4-32, Sheet Piling - The RI geologic cross-sections do not indicate that boulders are a serious concern over most of the site. Therefore, sheet piling would be useable in many, if not most, areas of the site.

19) Page 4-34 - While acceptable for the Enhanced Immiscible

Product Recovery System (EIPRS), the success of the EIPRS recovery well network may need to be reevaluated when the lateral extent of floating product has been better determined. For example, the lateral extent of floating product between MW-1 and Bldg 13 is currently unclear. Additional recovery wells might be found necessary in the Remedial Design phase.

20) Page 4-38, Second Full Paragraph - The text should specify what soil conditions would make the use of eight foot deep trenches impractical.

21) Page 5-6, Second to Last Paragraph - The WHPA computer model results used to develop a groundwater extraction system are completely undocumented and the conclusions and indicated capture zones do not appear consistent with common sense expectations. The WHPA was not developed to be used to plan extraction well systems. The WHPA model was designed to help community water well owners plan/design well head protection areas. If the model results are to be retained in the FS Report, supporting documentation (the model's input data, computer printouts, etc.) should be submitted to NJDEP for review. Regardless of whether the model results are found acceptable for the FS Report, a better groundwater extraction system/model is likely to be needed for the Remedial Design phase.

22) Page 5-11, First Full Paragraph - The first sentence could be supplemented by another sentence indicating that slurry walls are often used together with extraction wells to improve the performance of groundwater collection systems. The third sentence suggests that the authors do not acknowledge that a slurry wall does not have to extend all the way to bedrock to be effective. A hanging slurry wall, one that is not keyed into a confining unit, could significantly reduce the horizontal flow of clean water into the site from the river and the surrounding areas. This could significantly reduce the amount of water that would need to be pumped to remediate the plume and reduce the amount of water that would need to be discharged or reinjected.

23) Page 6-10, Institutional Controls/Figure 6-1 - The area that is designated for institutional controls appears to ignore areas in the western portion of the site where floating product and heavily contaminated soils have been found. The purpose of this is supposedly to alert prospective buyers of such problems. Figure 6-1 does not provide an accurate representation of those areas where subsurface contamination is a concern. This goes back to the question regarding the western extent of floating product at the site. It is has not been determined.

24) Page 6-29, First Paragraph - The suggestion that all of the reinjected groundwater will be contained by the extraction wells is questionable. Not only must the extraction wells contain the reinjected water, but also the groundwater flowing into the contaminated area. It may not be possible to reinject all of the

treated groundwater and contain the plume at the same time. A discharge (e.g., to the Rockaway River) of a portion of the treated groundwater may be necessary in addition to reinjection.